

NEW SPECIES AND COMBINATIONS IN *PSEUDOGYNOXYS*
(SENECIONEAE)

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ABSTRACT

A new species of *Pseudogynoxys* s.l., *P. alajuelana* B.L. Turner, is described from Costa Rica. It belongs to a group of species that some workers would include in or near the recently described genera, *Garcibarrigoa* Cuatr. and *Talamancalia* H. Rob. & Cuatr., elements of which I position in an expanded *Pseudogynoxys*. To this end the following new combinations are proposed: *Pseudogynoxys westonii* (H. Rob. & Cuatr.) B.L. Turner, *comb. nov.*, and *P. durandii* (Klatt) B.L. Turner, *comb. nov.* So construed, *Pseudogynoxys* is conceived as a mesophytic genus of clambering shrubs and/or perennial herbs having mostly orange ray florets and variable style branches, the appendages of the latter varying from apically rounded and penicillate basally, to long-attenuate and sparsely penicillate along their margins.

KEY WORDS: Asteraceae, Senecioneae, *Pseudogynoxys*, *Garcibarrigoa*, *Talamancalia*, Costa Rica, systematics

Pseudogynoxys was first proposed by Greenman (1902) as a subgenus of *Senecio*. Cabrera (1950) elevated this to generic rank, the group largely recognized by its clambering or scandent habit, orange rays, and especially by its style branches which were thought to be rather uniformly bestowed with triangular styler appendages fringed at the base with a crown of hairs. Since Cabrera's treatment, several newly described genera (*Garcibarrigoa* Cuatr. and *Talamancalia* H. Rob. & Cuatr.) have been proposed that clearly relate to *Pseudogynoxys*, differing from the latter primarily in habit (non-clambering perennial herbs) and styler appendages. In my view (Turner 1991), *Garcibarrigoa* and *Talamancalia* are readily positioned in an expanded concept of *Pseudogynoxys*, unless one prescribes to a microgeneric concept for the numerous tropical American elements of *Senecio* as proposed by Nordenstam & Pruski (1995), Robinson & Cuatrecasas (1994) and perhaps others (Barkley, pers. comm.).

Much of the reasoning behind the generic splintering of the pseudogynoxoid alliance referred to above has to do with emphasis upon microcharacters, most notably

stylar branches and their appendages. Thus Pruski (1996), in his defense of the retention of *Garcibarrigoa*, notes that species of the latter "have neither the scandent habit nor the sterile triangular to acuminate style branch appendages tipped by a fringe or tuft of papillae, as typical of *Pseudogynoxys*." While his habitual observations are correct, my survey of style branches in the pseudogynoxoid alliance show a wide range of variation in this character, even within *Pseudogynoxys* (s.s.). For example, elongate stylar appendages with varying degrees of basal hairs, to those with merely rounded apices which are minutely papillate at base occur in *Pseudogynoxys* (s.s.). We (Mendenhall & Turner, in prep.) are currently undertaking a scanning electron microscopical study of the stylar appendages of the pseudogynoxoid complex and preliminary results suggest that stylar characters in this group are much more plastic than heretofore supposed, and that treatment of these taxa within an enlarged genus *Pseudogynoxys* will prove defensible on phyletic grounds.

PSEUDOGYNOXYS ALAJUELANA B.L. Turner, *spec. nov.* TYPE: COSTA RICA. Alajuela: P. Nac. Rincón de la Vieja. Quebrada Leiva. Colonia Blanca (10° 47' 20" N, 85° 15' 20" W), 600 m, 4 Apr 1991, *Gerardo Rivera 1235* (HOLOTYPE: MO!).

Similis *P. boquetensis* (Standl.) B.L. Turner sed habens capitula sine floribus radiantibus, appendices styli lineares-lanceolatas, et lobos corollarum faucibus ca. 1/3 plo longiores.

Perennial herbs 35-40 cm high. Stems densely hirsute with crinkly, purplish-septate, hairs. Leaves simple, gradually reduced upwards, those at mid-stem 8-10 cm long, 3-4 cm wide; petioles 2.0-2.5 cm long, auriculate at the base, subclasping but not connate; blades elliptic, pinnately veined, densely pubescent above and below, the margins irregularly serrate. Heads 2-4, arranged in loose corymbs, the ultimate peduncles mostly 3-10 cm long. Calyculus of 10-14 loosely arranged linear bracts 3-5 mm long. Involucre ca. 1 cm long, composed of ca. 11 lanceolate bracts. Ray florets absent. Disk florets 80-100 (est.); corollas tubular, glabrous, reportedly yellow, ca. 12 mm long, the throat poorly defined, 3-4 mm long, the lobes 5 ca. mm long, narrowly deltoid. Anthers ca. 2 mm long, basally obtuse or rounded, the apical appendages ca. 0.5 mm long. Style branches ca. 4 mm long, the appendages linear-lanceolate, hispidulous. Achenes (immature) 3-4 mm long, columnar, 8-10 costate, minutely appressed-pubescent; pappus of numerous delicate, white, readily deciduous bristles 10-12 mm long.

Pseudogynoxys alajuelana is an enigmatic species, possessing corolla and stylar characters which are seemingly attenuated forms of typical elements of the genus, but having the habit of those species that Robinson & Cuatrecasas (1994) recognize as the segregate genus *Talamancalia*. The corolla lobes of *P. alajuelana* are narrowly trianguloid and ca. 1/3 as long as the throat; the stylar branches have appendages that are linear-lanceolate and lack a well-defined basal tuft of hairs. Among most species of *Pseudogynoxys*, corolla lobes are narrowly triangular and usually 1/2 or more as long as the tube; the stylar appendages are usually narrowly deltoid to narrowly lanceolate, with often well-defined basal hairs. Nevertheless there is much variation in these two characters among the species I have examined, especially in the stylar appendages (as noted above) which may vary from merely trianguloid to lanceolate

with varying degrees of pubescence, occasionally within a single head. Regardless, I can not believe that the short corolla lobes and linear-lanceolate, weakly penicillate stylar branches of *P. alajuelana* are anything but accentuations of trends already present in *Pseudogynoxys* s.s.. The habit of *P. alajuelana*, a perennial non-clambering herb ca. 40 cm high, to judge from the single specimen examined, is that found in the recently proposed *Talamancalia* (Robinson & Cuatrecasas 1994). Additionally, *Pseudogynoxys alajuelana* has leaves similar to *Talamancalia boquetensis* (Standl.) H. Rob. [= *Pseudogynoxys boquetensis* (Standl.) B.L. Turner], possessing subclasping basal appendages, (as do some species of *Pseudogynoxys*, as noted by Robinson & Cuatrecasas 1994).

Various authors might possibly consider the present novelty to be yet another closely related monotypic genus, if emphasis is placed upon the stylar appendages and corolla lobes possessed by *Pseudogynoxys alajuelana*, for Robinson & Cuatrecasas (1995) note that

The five genera, *Garcibarrigoa*, *Jacmaia*, *Jessea*, *Pseudogynoxys*, and *Talamancalia*, differ from almost all species of *Senecio* sensu stricto by having long and narrow lobes on the corolla. The lobes in *Jacmaia* and all of *Jessea* except the type species are about as long as the throat. The limbs and the lobes of the corolla of *Garcibarrigoa* are comparatively short with the lobes narrowly triangular rather than narrowly oblong.

My own view is that the habit and short corolla lobes of *Pseudogynoxys alajuelana* vitiate recognition of a monotypic *Garcibarrigoa*. Indeed, I believe that phyletic studies emphasizing similarities (instead of differences) among the several taxa mentioned in the above will show that *Pseudogynoxys*, *Garcibarrigoa*, and *Talamancalia* are more closely related among themselves than they are to *Jacmaia* and *Jessea*. DNA studies are sorely needed to help ferret out relationships among these various generic segregates.

In line with the above taxonomic views I propose the following new combinations:

PSEUDOGYNOXYS WESTONII (H. Rob. & Cuatr.) B.L. Turner, *comb. nov.*
 BASIONYM: *Talamancalia westonii* H. Rob. & Cuatr., Novon 4:52. 1994.

PSEUDOGYNOXYS DURANDII (Klatt) B.L. Turner, *comb. nov.*
 BASIONYM: *Senecio durandii* Klatt, Bull. Soc. Bot. Belg. 31:211. 1892.

This Costa Rican endemic is a suffruticose herb with pendant branches having orange ray and disk florets and emits "an unpleasant odor when crushed" (*Almeda 5791* [TEX]; described as that of "culantro" by *Grayum 3746* [TEX]). Standley (1938) notes the species to be "a most distinct one, altogether unlike any other with which I am familiar." He also adds that the plant appears to be rare occurring "on rocks at the edge of streams in deep, dark forests, sometimes in the spray of waterfalls." This is also borne out by label data on the ten or more sheets known to me (LL, MO, TEX).

Of the species to be included within my treatment of *Pseudogynoxys* for Costa Rica (in prep.) this is the most distinctive, but it appears to me to fall within the pseudogynoxoid alliance as conceived here.

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